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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,948	02/10/2004	Anders Astrom	99999-999999 (Formerly 19	8639

26694 7590 01/24/2008

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EXAMINER	
TSAI, TSUNG YIN	
ART UNIT	**PAPER NUMBER**
2624	
MAIL DATE	**DELIVERY MODE**
01/24/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/774,948	ASTROM ET AL.	
	Examiner	Art Unit	
	Tsung-Yin Tsai	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 December 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 August 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *8/1/2007 and 2/10/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAIL ACTION

Acknowledge of amendment received on 12/21/2007 and made of record.

Acknowledge of amendment to claims 1and 9.

Response to Arguments

Applicant's argument – Page 7 regarding Luminari does not disclose the present invention as recited in independent claims 1 and 9 since, among other things, Luminari does not disclose a method or apparatus for imaging characteristics of an object that includes detecting light reflected from the object, detecting light exiting from the object after penetrating a surface of the object and being scattered by the object, creating a digital representation of the object based on the reflected and scattered light, and reading out from the digital representation information on a geometric profile of the object and information on the light scattered by the objectin a predetermined area around the profile. Luminari does not disclose utilizing or measuring dispersion/scatter measurements.

Examiner's response – Luminari teaches a method or apparatus for imaging characteristics (figure 5 discloses the characteristic of the object of interest) of an object (figure 5, figure 6 part 12) that includes detecting light reflected from the object (figure 6 part 40, column 3 lines 25-40), detecting light exiting from the object (figure 6 discloses beam 42 and angle 41 where the exiting light is detected) after penetrating a surface of the object (figure 5 disclose the surface of the object, figure 6 disclose the method of

detection) and being scattered by the object (figure 6 discloses beam 42 that is shone on the object of interest and angle 41 where the scattered light is collected), creating a digital representation (figure 6 part 40, column 3 lines 1-55 discloses where part 40 can be a CCD that process the incoming information) of the object based on the reflected and scattered light (figure 6 part 40 discloses part that will received the light, column 3 lines 1-55 disclose where the scattered light that is received will be process and area of interest of the object is coordinated), and reading out from the digital representation information (column 3 lines 1-55 discloses where the information is display in coordinate system) on a geometric profile of the object (column 3 lines 1-55 where the geometric profile is set by the coordinates system) and information on the light scattered (column 3 lines –55 discloses the coordinate information) by the object (figure 5, figure 6 part 12) in a predetermined area around the profile (figure 5 and figure 6). Luminari teaches utilizing or measuring (figure 6, column 3 lines 1-55 discloses measuring by the finding the coordinate of the defect, this is seen as measuring) dispersion/scatter measurements (figure 6, column 3 lines 1-55 discloses measuring by the finding the coordinate of the defect, this is seen as measuring).

Applicant's argument – Page 9 regarding In view of the above, Luminari does not disclose all elements of the present invention as recited in claims 1, 8, 9, 13, 14, and 16. Since Luminari does not disclose all elements of the present invention as recited in claims 1, 8, 9, 13, 14, and 16, the present invention, as recited in claims 1, 8, 9, 13, 14, and 16,. is not properly rejected under 35 U.S.C. § 102(b).

Examiner's response – As show above Luminari teaches all the limitations of the of the listed claims. Read the 35 USC 102 rejections below for other details of the rejection.

Applicant's argument – Pages 10-11 regarding claims 2, 7, 10 and 15.

Examiner's response – Combining the teachings of Ervin to Luminari teaches the limitation such as compression in the image processing.

Please see the 35 USC 103 rejections below for more detail of the rejection and motivations to combine.

Applicant's argument – Page 11 regarding Furthermore, one of ordinary skill in the art would not combine Luminari and Ervin, since neither references suggests scattered light. In fact, since neither Luminari nor Ervin suggests scattered light, one of ordinary skill in the art would not look to either reference for a solution to imaging characteristics of an object utilizing scattered light. Additionally, since neither Luminari nor Ervin suggests scattered light, neither reference suggests the present invention as recited in claims 2, 7, 10, or 15. Therefore, the combination of Luminari and Ervin does not suggest the present invention as recited in claims 2, 7, 10 and 15.

Examiner's response – Luminari teaches regarding scatter light in the abstract. Ervin discloses how the data in figure 1 is further reducing to that of figure 2 and 6. This compression by reduction method teaches upon the same lines as the concept of data

compression. Ervin in column 2 lines 40-45 discloses this method work when both height and width of each character is reduced. Reduction of the height and width of a character means that there will be less rows and columns of pixel to represent a character; such that with less pixels means less memory use for storage of that characters, thus is reflect compression methods. Combining both teaching of Luminari and Ervin would have been obvious at the time of the invention. With less memory taking up space due to compression of data by reduction, the system will have more memory to carry out larger data processing of the 3D and the light scattering faster.

Applicant's argument – Page 11-12 regarding The combination of Luminari, Ervin and Kableshkov does not suggest the present invention as recited in claims 3-6, 11, and 12 since, among other things, the combination does not suggest a method or apparatus for imaging characteristics of an object that includes detecting light reflected from the object, detecting light exiting from the object after penetrating a surface of the object and being scattered by the object, creating a digital representation of the object based on the reflected and scattered light, and reading out from the digital representation information on a geometric profile of the object and information on the light scattered by the object in a predetermined area around the profile. As discussed above, Luminari does not suggest the present invention as recited in claims 1 and 9. Kableshkov suggests a device for cumulative summation. In particular, Kableshkov suggests a database application where an array of values nominally received in a row-by-row

fashion is to be summed to form column-wise sums, and this is done using an Relational Data Base Accelerator (RDBA).

Examiner's response – Luminari teaches regarding scatter light in the abstract. Ervin teaches regarding compression by reduction. Kableshkov disclose a unit that function as a cumlative summation unit, which function as summing floating point data or any input data. It carry out this function by taking input data and process it row-by-row (column 1 lines 15-30) as well as column-wise summation (column 1 lines 15-30). The combine teachings covers all the claims, which call for summation process to be perform. Kableshkov further disclose that the process of summation can thus enhance the statistical capabilities by reducing the time for related database query response (column 2 lines 45-50). This enhancement of faster query response couple with the more memory for processing, from the combination of Luminari and Ervin, is a great motivation to combine such teaching for a system to be more resourceful with limited resources. As discloses above and below in the 35 USC 102 rejections Luminari teaches the amended claims.

Applicant's argument – Page 12 regarding Aspect of the present invention as recited in claims 3-6, 11, and 12 include using cumulative summation of selected rows rather than selected columns in the compression of the image data, not as a means to calculate the accumulated sum. In the RDBA suggested by Kableshkov, the target is the summation result. On the other hand, according to the present invention as recited in

claims 3-6, 11, and 12 the summation result is used as a compressed descriptor of the summed values.

Examiner's response – Luminari teaches regarding scatter light in the abstract. Ervin teaches regarding compression by reduction. Kableshkov disclose a unit that function as a cumlative summation unit, which function as summing floating point data or any input data. It carry out this function by taking input data and process it row-by-row (column 1 lines 15-30) as well as column-wise summation (column 1 lines 15-30). The combine teachings covers all the claims, which call for summation process to be perform. Kableshkov further disclose that the process of summation can thus enhance the statistical capabilities by reducing the time for related database query response (column 2 lines 45-50). This enhancement of faster query response couple with the more memory for processing, from the combination of Luminari and Ervin, is a great motivation to combine such teaching for a system to be more resourceful with limited resources.

There is no mention in the specification where the summation result is use as compressed descriptor. Kableshkov teaches where the compression is due by reducing the rows by summation and predetermined values as defined in the claims.

Applicant's argument – Regarding the Examiner's comments concerning analog versus digital means, Applicants believe that the Examiner has misread the Kableshkov patent. Along these lines, Kableshkov states that, "VAX F-format or IEEE S-format may be handled in an analogous manner." This means that these formats can be handled in

the same way, not that they are handled in the analog domain rather than the digital domain.

Examiner's response – Examiner agree that he has misread the Kableshkov regarding that passage. Kableshkov teaches in figures 1-3 that the apparatus process these formats of data.

Claim Rejections – 35 USC 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 8-9, 13-14 and 16 are rejected under 35 U.S.C. 102(b) as being unpatentable over Luminari (US Patent Number 4.984,172 IDS).

Luminari disclose the method and system that carries the function of imaging characteristics, comprising:

(1) Regarding claims 1 and 9:

an object (title disclose object as wood panels, abstract disclose object as plywood panels, figure 1, figure 3, figure 5 disclose what samples of interest are detected in the object, column 1 lines 60-67) with of a measuring system (abstract disclose a measuring device for scanning with respect of the x, y and z axes, figure 2

parts 15-18 are the detection devices, column 4 lines 30-35 disclose system that can determine the length, width and depth of the object of interest) the method comprising:

moving at least one of the measuring system and/or the object in relation another of the measuring system and the object in a predefined direction (figure 3 disclose that the object of interest is move in a predetermine direction by the belts, column 2 lines 5-18 disclose the a predefined direction such as longitudinally, transversally and vertically with respect to the object of measurement) of movement,

moving the object in relation (figure 3 disclose that the object of interest is move in a predetermine direction by the belts, column 2 lines 5-18 disclose the a predefined direction such as longitudinally, transversally and vertically with respect to the object of measurement) to the measuring system (abstract disclose a measuring device for scanning with respect of the x, y and z axes, figure 2 parts 15-18 are the detection devices, column 4 lines 30-35 disclose system that can determine the length, width and depth of the object of interest),

illuminating the object with incident light (abstract disclose light bean that transversely onto the surface of the object of interest, figure 6 disclose a light beam and pat 19 that show the light source, column 3 lines 28-40 disclose a LASER projector or a light beam), which has limited extension in the direction of movement (abstract disclose the light been has a limited extension; only in the transverse position of the panel, figure 6 disclose a the light source 19 having a limited extension in terms of 42 as the object of interest move in predefine direction, column 3 lines 28-40, column 4 lines 30-36), **wherein the incident light (**figure 6 part 19 that shone light 42 on the surface of the

object) **strikes the object** (figure 6 part 12 disclose the object) **at a predetermined distance** (figure 1 discloses a rigid system that process the object of interest, where the object of interest is the one moving, figure 4, figure 6 disclose angle 41, column 3 lines 25-40 disclose angle 41 by determined in respect to the system) **from an imaging sensor** (figure 6 part 40 is the image light sensor, column 3 lines 25-40 discloses part 40 that will capable of resolving the beam of light) **viewed in the direction** (figure 6) **of movement of the object** (figure 6 part 12 disclose the object),

detecting light reflected from the object (abstract disclose reflected beam use to measure the object of interest, column 4 lines 25-40 disclose reflected beam to determine length, width and depth of the object of interest) with an imaging sensor (abstract disclose a detecting and measuring system where the detecting system measure the x, y and z axes of the from the reflected light, figure 6 part 40 is a image sensor, column 3 lines 28-40 disclose a CCD is resolve the reflects into a series of points) arranged on the same side of the object as the incident light (figure 1-6 disclose the placement is on the same plane or same side of the object of light),

detecting with the image sensor (figure 6 part 40 is the image light sensor, column 3 lines 25-40 discloses part 40 that will capable of resolving the beam of light) **light exiting from the object** (figure 5 discloses the area of interest determine as defects, figure 6 disclose the light that will shine on the object for inspection and part 40 the image sensor to pick up the reflect) **after penetrating a surface** (figure 5 disclose the surface for inspection, column 3 lines 1-25 discloses the defect that are into the surface) **of the object** (figure 6 part 12 disclose the object) **and being scattered**

(column 3 lines 25-40) **by the object** (figure 6 part 12 disclose the object) **simultaneously with detecting** (figure 6 part 40 is the image light sensor, column 3 lines 25-40 discloses part 40 that will capable of resolving the beam of light) **the reflected light** (figure 6, column 3 lines 1-55),

converting the detected **reflected light and scattered** (figure 6 part 40, column 3 lines 25-40 discloses where part 40 can be a CCD that collects the beam of lights) light into electrical charges with the image-processing sensor (figure 6, column 3 lines 28-40 disclose a detection system that can be a CCD that is able to convert the reflected light into electrical charges that will the properties of object of interest),

creating a digital representation of the object (3 lines 28-40 disclose a detection system that can be a CCD where CCD output digital outputs in respect to the x, y, and z Cartesian coordinates for the profile) from the electrical charge,

simultaneously reading out from the digital representation information on a geometric profile of the object (abstract disclose the x, y and z showing the geometric profile of the object of interest, column 3 lines 10-15 disclose that sensor can detect the defects of the object of interest in geometrical terms, column 3 lines 28-38 disclose the CCD able to form the geometrical profile of the object of interest from the reflect light into x, y and z coordinates, column 4 lines 20-25 disclose measuring system that is able to determine the length, width and depth which are geometrical profiles, column 4 lines 30-35) and information on **the** light **scattered by the object** (figure 5 disclose the imperfection on the object of interest that can be determine from the light reflection/light scatter, figure 6 disclose detector 40 that collects the scatter lights, column 3 lines 28-38

disclose the CCD that detect the reflected beams for x, y and z coordinates, column 4 lines 3-10 disclose that the light intensity collected can determine further profile of the object of interest) in a predetermined area (figure 6 disclose the beam to be only in a predetermine area by the line 42 and angle of 41, column 3 lines 28-54) around the said profile (3 lines 28-40 disclose a detection system that can be a CCD where CCD output digital outputs in respect to the x, y, and z Cartesian coordinates for the profile).

(2) Regarding claim 8:

reading out from the digital representation information on an intensity distribution addition to information (column 3 lines 1-20 disclose additional information such as chromatic discontinuities of the surface, knots, glue or paint stain or spots) on the geometric profile (abstract disclose the x, y and z showing the geometric profile of the object of interest, column 3 lines 10-15 disclose that sensor can detect the defects of the object of interest in geometrical terms, column 3 lines 28-38 disclose the CCD able to form the geometrical profile of the object of interest from the reflect light into x, y and z coordinates, column 4 lines 20-25 disclose measuring system that is able to determine the length, width and depth which are geometrical profiles, column 4 lines 30-35) of the object and the light scatter (abstract disclose reflected beam use to measure the object of interest, column 4 lines 25-40 disclose reflected beam to determine length, width and depth of the object of interest), (abstract disclose the measure of light intensity, column 3 lines 1-5 disclose chromatic discontinuities which is due to light intensity reflection, column 3 lines 28-55 to column 4 lines 1-10 disclose the information that are gather due to light intensity) (3 lines 28-40 disclose a detection system that can be a CCD where

CCD output digital outputs in respect to the x, y, and z Cartesian coordinates for the profile).

(3) Regarding claim 13:

wherein the incident light comprise linear light (figure 6, column 3 lines 25-35 disclose a the light source to be LASER, which is seen as a linear light source).

(4) Regarding claim 14:

wherein the incident light comprises of a plurality of points or linear segments (column 3 lines 25-55 disclose the linear light source which detect position of points that are aligned along a straight line).

(5) Regarding claim 16:

wherein in addition to information (column 3 lines 1-20 disclose additional information such as chromatic discontinuities of the surface, knots, glue or paint stain or spots) on the geometric profile (abstract disclose the x, y and z showing the geometric profile of the object of interest, column 3 lines 10-15 disclose that sensor can detect the defects of the object of interest in geometrical terms, column 3 lines 28-38 disclose the CCD able to form the geometrical profile of the object of interest from the reflect light into x, y and z coordinates, column 4 lines 20-25 disclose measuring system that is able to determine the length, width and depth which are geometrical profiles, column 4 lines 30-35) of the object and the light scatter (figure 5 disclose the imperfection on the object of interest hat can be determine from the light reflection/light scatter, figure 6 disclose detector 40 that collects the scatter lights, column 3 lines 28-38 disclose the CCD that detect the reflected beams for x, y and z coordinates, column 4 lines 3-10 disclose that

the light intensity collected can determine further profile of the object of interest), the image-processing unit (column 2 lines 5-65 disclose the processing unit) is also comfigured to read out information on an intensity distribution (abstract disclose the measure of light intensity, column 3 lines 1-5 disclose chromatic discontinuities which is due to light intensity reflection, column 3 lines 28-55 to column 4 lines 1-10 disclose the information that are gather due to light intensity) from the digital representation (3 lines 28-40 disclose a detection system that can be a CCD where CCD output digital outputs in respect to the x, y, and z Cartesian coordinates for the profile).

Claim Rejections – 35 USC 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2, 7, 10 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luminari (US Patent Number 4.984,172 IDS) in view of Ervin (US Patent Number 4,168,489).

(1) Regarding claims 2 and 10:

Luminari teaches regarding digital representation.

Luminari does not teach regarding divided up into rows and columns and that a creating compressed image is created from the digital representation by reducing the number of rows.

However, Ervin teaches regarding dividing up into rows and columns (figure 1-2, figure 6) and that a compressed image (figure 6) is created from the digital representation by reducing the number of rows (figure 2 and figure 6 disclose where the compress image has reduced rows, column 2 lines 50-65 show the compressing for reducing "height" which is seen as rows).

It would have been obvious to one skill in the art at the time of the invention to employ Ervin teaching to Luminari regarding divided up into rows and columns and that a compressed image is created from the digital representation by reducing the number of rows, such that this form of compression is a way to reduced redundant or repeating data so less memory will be taken for the storage of the image data.

(2) Regarding claims 7 and 15:

Luminari teaches regarding all the subject matter above.

Luminari does not teach regarding wherein the compressed image is created by saving for each column the maximum value for the pre-selected rows.

However, Ervin teaches regarding wherein the compressed image (figure 6) is created by saving for each column the maximum value for the pre-selected rows (column 2 lines 52-63 disclose pre-selected rows, figure 2 and figure 6 disclose where the compress image has reduced rows, column 2 lines 50-65 show the compressing for reducing "height" which is seen as rows, column 4 lines 1-67 to column 5 lines 1-30 disclose that rows that has detection is label as "1" and that values is save by that row and column).

It would have been obvious to one skill in the art at the time of the invention to employ Ervin teaching to Luminari regarding wherein the compressed image is created by saving for each column the maximum value for the pre-selected rows, such that this form of compression is a way to reduced redundant or repeating data so less memory will be taken for the storage of the image data for those of limited storage space or limited bandwidth for the image data transfer.

5. Claims 3-6 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luminari (US Patent Number 4.984,172 IDS) in view of Ervin (US Patent Number 4,168,489) as applied in claims 2 and 10 respectively above, and further in view of Kableshkov (US Patent Number 5,490,100).

(1) Regarding claim 3 and 11:

Luminari and Erivin teach regarding digital representation by reduction of rows.

Luminari and Erivin does not teach regarding the reduction of row by summation of rows in a predetermine order.

However, Kableshkov teaches regarding the reduction of row summation of rows (column 1 lines 15-20 disclose the cumulative summation on a row-by-row basis, column 3 lines 55-63 disclose the summation unit capable of fulfilling the column-wise summation) in a predetermine order (column 10 lines 40-45 disclose a predetermine order according to the format of the in coming bit data).

It would have been obvious to one skill in the art at the time of the invention to employ Kableshkov teaching to Luminari and Erivin regarding reduction of row by summation of rows in a predetermine order, such that it will enhance the statistical capabilities and contributes to the reduction of relational data base query response time (column 2 lines 45-50) for the data.

(2) Regarding claim 4:

Luminari and Erivin teach regarding all the subject matter above.

Luminari and Erivin do not teach regarding summation performed by analog means.

However, Kableshkov teaches summation is performed by analog means (column 4 lines 50-65 disclose that sign bits, exponents bits and mantissa bits can be handled in an analogous manner using portions of the corresponding register).

It would have been obvious to one skill in the art at the time of the invention to employ Kableshkov teaching to Luminari and Erivin regarding summation performed by analog means. The motivation would that it would conform to standards and requirement such as VAX F-format or IEEE S-format (column 4 lines 50-65).

(3) Regarding claim 5:

Erivin further teaches regarding summation is performed by digital means (column 3 lines 60-67 disclose digital means to effectuation the vertical reduction of the data).

(4) Regarding claims 6 and 12:

Erivin further teaches regarding saving for each column the summation by columns information on the row at which the electrical charge exceeds a predetermined threshold value (column 4 lines 43-47 where logical "1" is seen as the threshold value), indicating that reflected light is detected just in that row, is saved for each column (column 4 lines 1-67 to column 5 lines 1-30 disclose that rows that has detection is label as "1" and that values is save by that row and column).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tsung-Yin Tsai whose telephone number is (571) 270-1671. The examiner can normally be reached on Monday - Friday 8 am - 5 pm ESP.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571)272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tsung-Yin Tsai
January 14, 2008

JINGGE WU
SUPERVISORY PATENT EXAMINER